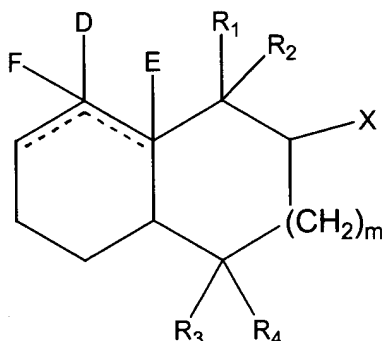


WHAT IS CLAIMED IS:

1. At least one compound defined according to the structure:



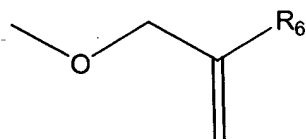
wherein m is 0 or 1;

wherein each of the dashed lines represent a carbon-carbon single bond or a carbon-carbon double bond with the proviso that not more than one dashed line represents a carbon-carbon double bond;

wherein X represents hydrogen or methyl;

wherein R₁, R₂, R₃ and R₄ each represent methyl or ethyl with the proviso that when X is methyl, each of R₁, R₂, R₃ and R₄ is methyl and when X is hydrogen, one of R₁, R₂, R₃ and R₄ is ethyl;

wherein D is =O when neither dashed line is a double bond, -OR₅ when either of the dashed lines is a double bond, -OR₇ when the dashed line in the Δ4,5 position is a double bond, or



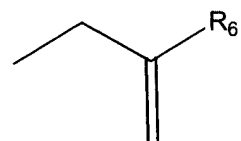
when the dashed line in the Δ3A,4 position represents a double bond;

wherein R₆ is hydrogen or methyl;

wherein R₇ represents C₁ – C₃ lower alkyl;

wherein R₅ represents C₄ – C₇ cycloalkyl, C₄ – C₇ hydroxyalkenyl or tri- C₁ – C₃ lower alkyl silyl;

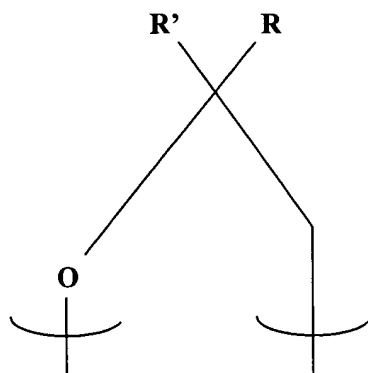
wherein E is hydrogen or



when neither dashed line is a double bond;

wherein F is hydrogen when neither dashed line is a double bond and D is not =O;

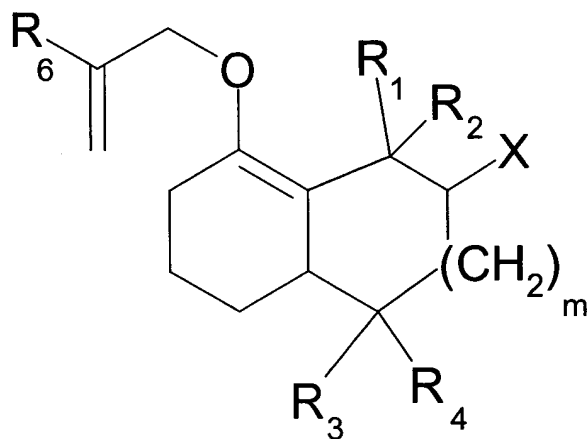
wherein D and E taken together represents the moiety:



when neither dashed line is a double bond;

wherein R and R' each represents hydrogen or methyl with the proviso that at least one of R and R' is methyl.

2. A compound of claim 1 defined according to the structure:



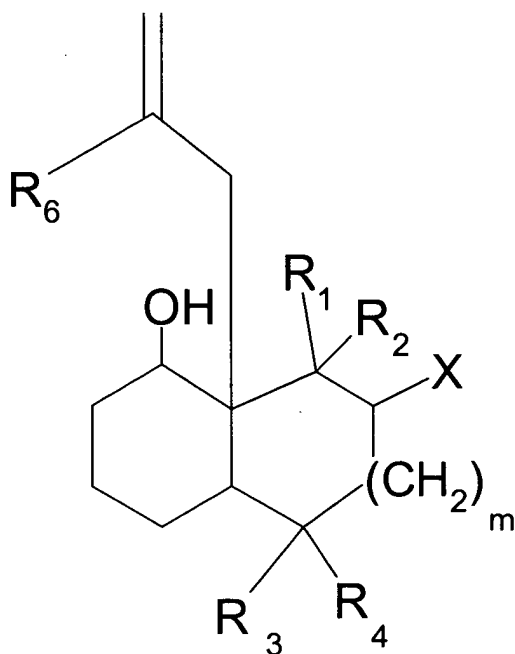
wherein m is 0 or 1;

wherein X is methyl or hydrogen;

wherein R₁, R₂, R₃ and R₄ each represent methyl or ethyl with the proviso that when X is methyl, each of R₁, R₂, R₃ and R₄ is methyl and when X is hydrogen, one of R₁, R₂, R₃ and R₄ is ethyl; and

wherein R₆ hydrogen or methyl.

3. A compound of claim 1 defined according to the structure:



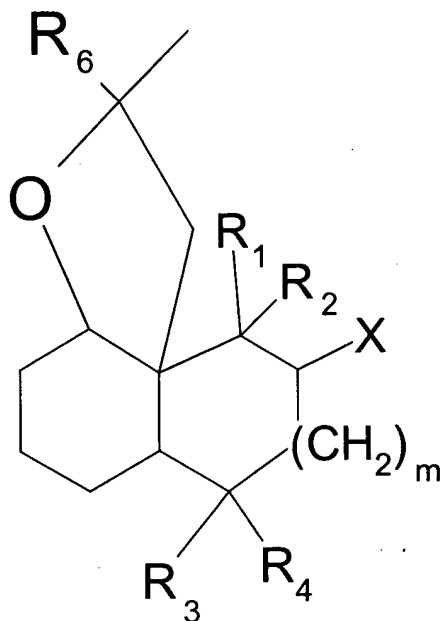
wherein m is 0 or 1;

wherein X is methyl or hydrogen;

wherein R₁, R₂, R₃ and R₄ each represent methyl or ethyl with the proviso that when X is methyl, each of R₁, R₂, R₃ and R₄ is methyl and when X is hydrogen, one of R₁, R₂, R₃ and R₄ is ethyl; and

wherein R₆ hydrogen or methyl.

4. A compound of claim 1 defined according to the structure:



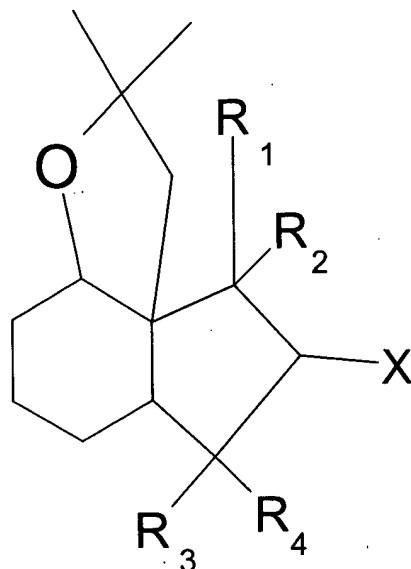
wherein m is 0 or 1;

wherein X is methyl or hydrogen;

wherein R_1 , R_2 , R_3 and R_4 each represent methyl or ethyl with the proviso that when X is methyl, each of R_1 , R_2 , R_3 and R_4 is methyl and when X is hydrogen, one of R_1 , R_2 , R_3 and R_4 is ethyl; and

wherein R_6 hydrogen or methyl.

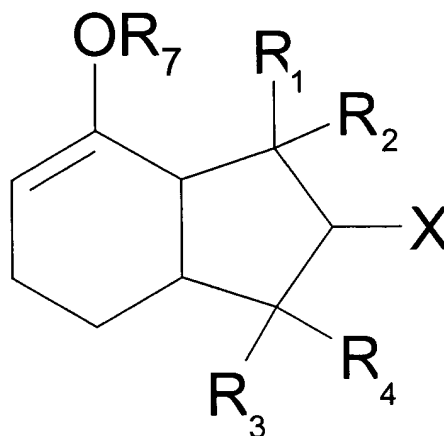
5. A compound of claim 4 defined according to the structure:



wherein X is methyl or hydrogen; and

wherein R₁, R₂, R₃ and R₄ each represent methyl or ethyl with the proviso that when X is methyl, each of R₁, R₂, R₃ and R₄ is methyl and when X is hydrogen, one of R₁, R₂, R₃ and R₄ is ethyl.

6. A compound of claim 1 defined according to the structure:

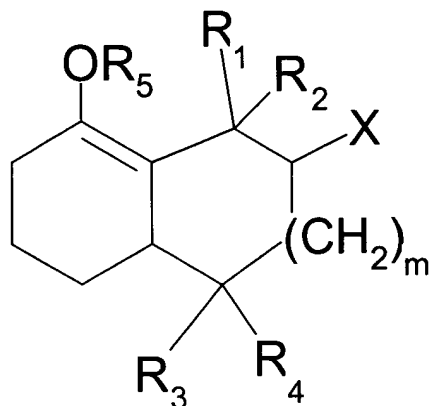


wherein X is methyl or hydrogen;

wherein R₁, R₂, R₃ and R₄ each represent methyl or ethyl with the proviso that when X is methyl, each of R₁, R₂, R₃ and R₄ is methyl and when X is hydrogen, one of R₁, R₂, R₃ and R₄ is ethyl; and

wherein R_7 represents $C_1 - C_3$ lower alkyl.

7. A compound of claim 1 defined according to the structure:



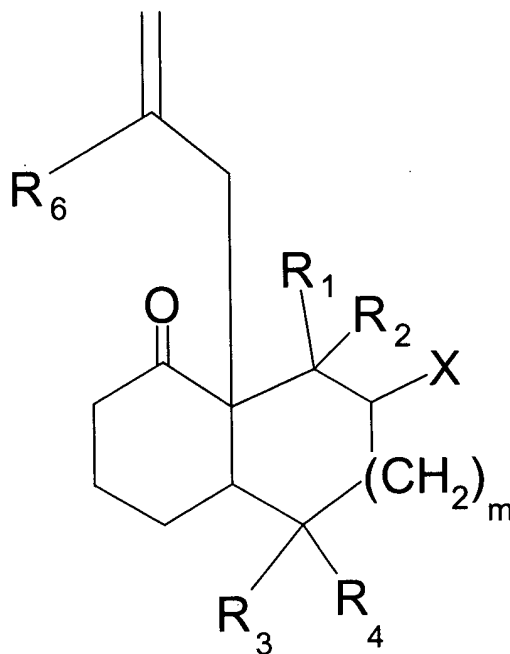
wherein m is 0 or 1;

wherein X is methyl or hydrogen;

wherein R_1 , R_2 , R_3 and R_4 each represent methyl or ethyl with the proviso that when X is methyl, each of R_1 , R_2 , R_3 and R_4 is methyl and when X is hydrogen, one of R_1 , R_2 , R_3 and R_4 is ethyl; and

wherein R_5 represents $C_4 - C_7$ cycloalkyl, $C_4 - C_7$ hydroxyalkenyl or tri- $C_1 - C_3$ lower alkyl silyl.

8. A compound of claim 1 defined according to the structure:



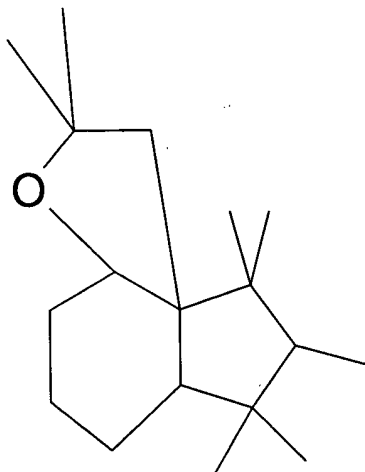
wherein m is 0 or 1;

wherein X is methyl or hydrogen;

wherein R₁, R₂, R₃ and R₄ each represent methyl or ethyl with the proviso that when X is methyl, each of R₁, R₂, R₃ and R₄ is methyl and when X is hydrogen, one of R₁, R₂, R₃ and R₄ is ethyl; and

wherein R₆ hydrogen or methyl.

9. A compound of claim 5 having the structure:

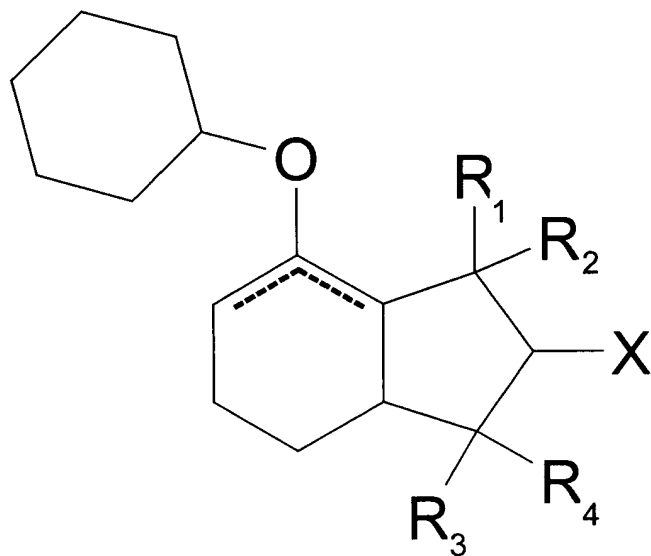


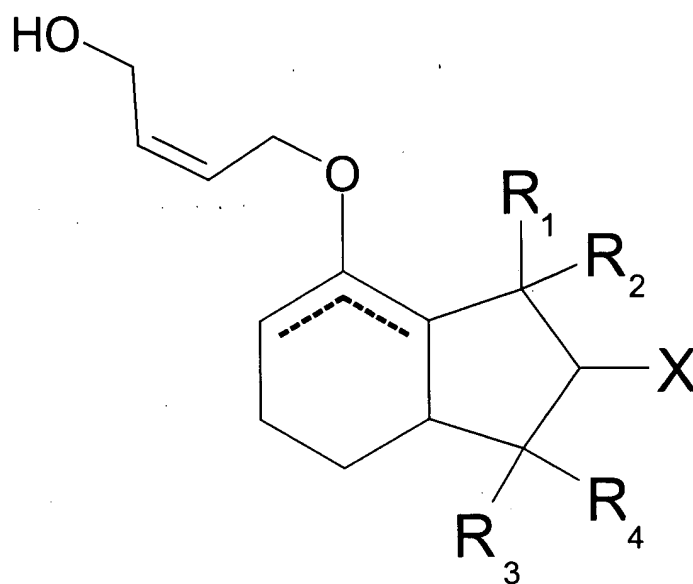
10. The optical isomers of the compound of claim 9:

(1R,5R,9R,11R)-Z	(1R,5S,9R,11S)-Z
(1R,5R,9R,11S)-Z	(1R,5R,9S,11S)-Z
(1R,5R,9S,11R)-Z;	(1R,5S,9S,11R)-Z
(1R,5S,9R,11R)-Z;	(1R,5S,9S,11S)-Z
(1S,5R,9R,11R)-Z;	(1S,5R,9S,11S)-Z
(1S,5R,9R,11S)-Z;	(1S,5S,9R,11S)-Z
(1S,5R,9S,11R)-Z;	(1S,5S,9S,11R)-Z
(1S,5S,9R,11R)-Z;	(1S,5S,9S,11S)-Z

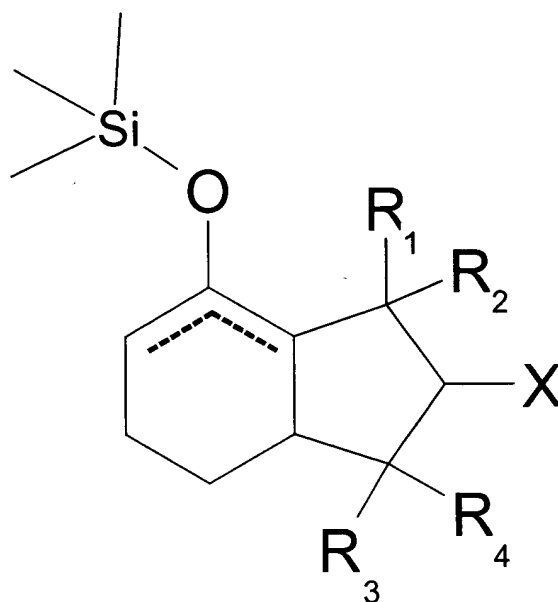
wherein “Z” represents the compound name, “3,3,10,10,11,12-heptamethyl-4-oxatricyclo[7.3.0.0<1,5>]dodecane”.

11. A compound of claim 7 having a structure selected from the group consisting of:





and

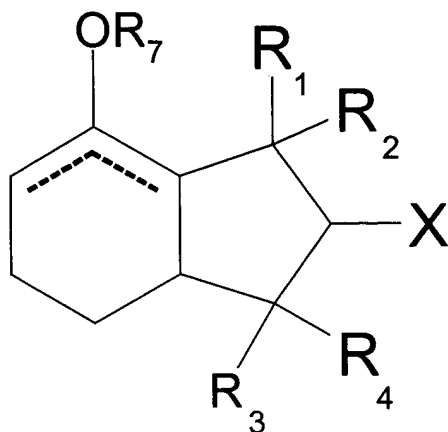


wherein X is methyl or hydrogen;

wherein R₁, R₂, R₃ and R₄ each represent methyl or ethyl with the proviso that when X is methyl, each of R₁, R₂, R₃ and R₄ is methyl and when X is hydrogen, one of R₁, R₂, R₃ and R₄ is ethyl; and

wherein in each of the molecular structures one of the dashed lines represents a carbon-carbon double bond and the other of the dashed lines represents a carbon-carbon single bond.

12. A mixture of compounds represented by the structure:



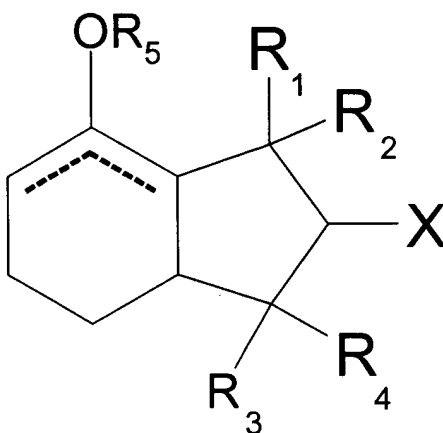
wherein in the mixture, in each of the compounds, one of the dashed lines represents a carbon-carbon double bond and the other of the dashed lines represents a carbon-carbon single bond;

wherein X is methyl or hydrogen;

wherein R₇ is C₁ – C₃ lower alkyl; and

wherein R₁, R₂, R₃ and R₄ each represent methyl or ethyl with the proviso that when X is methyl, each of R₁, R₂, R₃ and R₄ is methyl and when X is hydrogen, one of R₁, R₂, R₃ and R₄ is ethyl.

13. A mixture of compounds defined according to the structure:



wherein in the mixture, in each of the compounds, one of the dashed lines represents a carbon-carbon double bond and the other of the dashed lines represents a carbon-carbon single bond; wherein X is methyl or hydrogen;

wherein R₅ represents C₄ – C₇ cycloalkyl, C₄ – C₇ hydroxyalkenyl or tri- C₁ – C₃ lower alkyl silyl; and

wherein R₁, R₂, R₃ and R₄ each represent methyl or ethyl with the proviso that when X is methyl, each of R₁, R₂, R₃ and R₄ is methyl and when X is hydrogen, one of R₁, R₂, R₃ and R₄ is ethyl.

14. At least one compound of claim 1 which is incorporated into a fragrance formulation.

15. A method for improving, enhancing or modifying the odor properties of a fragrance by incorporating an olfactory acceptable amount of at least one compound of claim 1.

16. The method of claim 15 wherein the fragrance is incorporated into a product selected from perfumes, colognes, toilet waters, personal care products, cleaning products and air fresheners.

17. The method of claim 16 wherein the cleaning product is selected from the group consisting of detergents, dishwashing compositions, scrubbing compounds and window cleaners.

18. The method of claim 16 wherein the product is a personal care product.

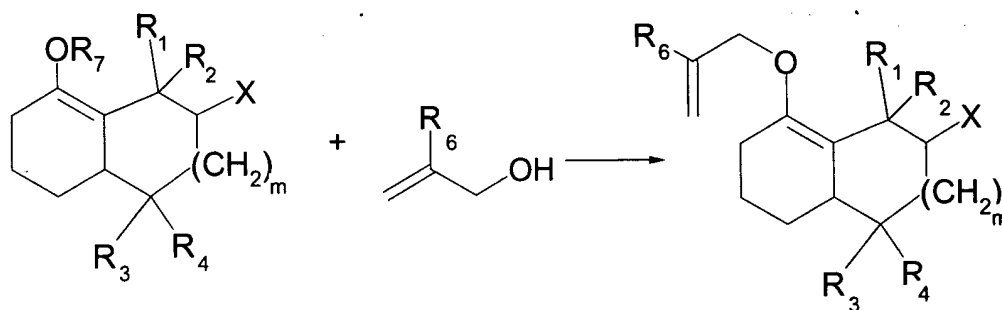
19. A method for improving, enhancing or modifying the odor properties of a fragrance by incorporating an olfactory acceptable amount of the mixture of claim 13.

20. A method for improving, enhancing or modifying the odor properties of a fragrance by incorporating an olfactory acceptable amount of at least one compound of claim 4.

21. A method for improving, enhancing or modifying the odor properties of a fragrance by incorporating an olfactory acceptable amount of at least one compound of claim 5.

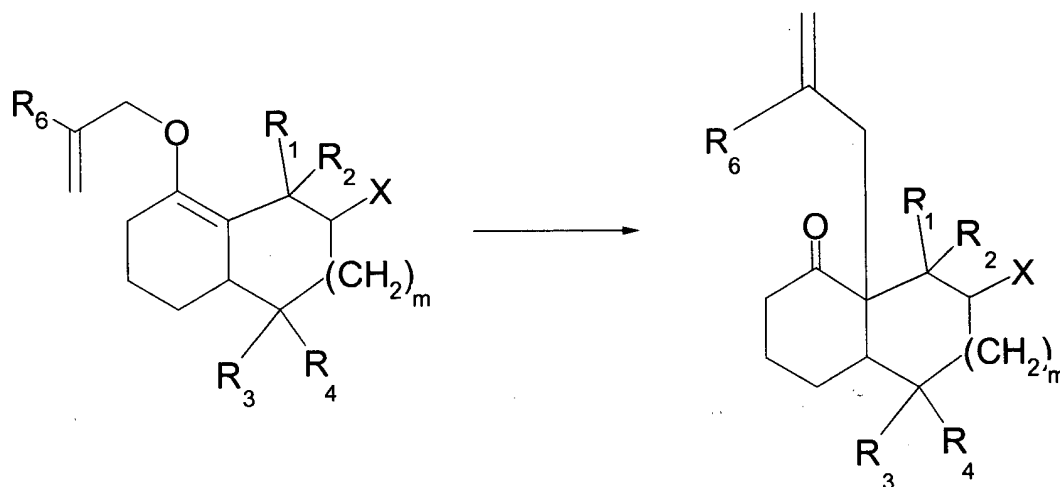
22. A method for improving, enhancing or modifying the odor properties of a fragrance by incorporating an olfactory acceptable amount of the compound of claim 9.

23. A method for improving, enhancing or modifying the odor properties of a fragrance by incorporating an olfactory acceptable amount of at least one isomer of claim 10.
24. A method for improving, enhancing or modifying the odor properties of a fragrance by incorporating an olfactory acceptable amount of at least one compound of claim 11.
25. A process for synthesizing the compound of claim 2 comprising the step of carrying out the reaction:



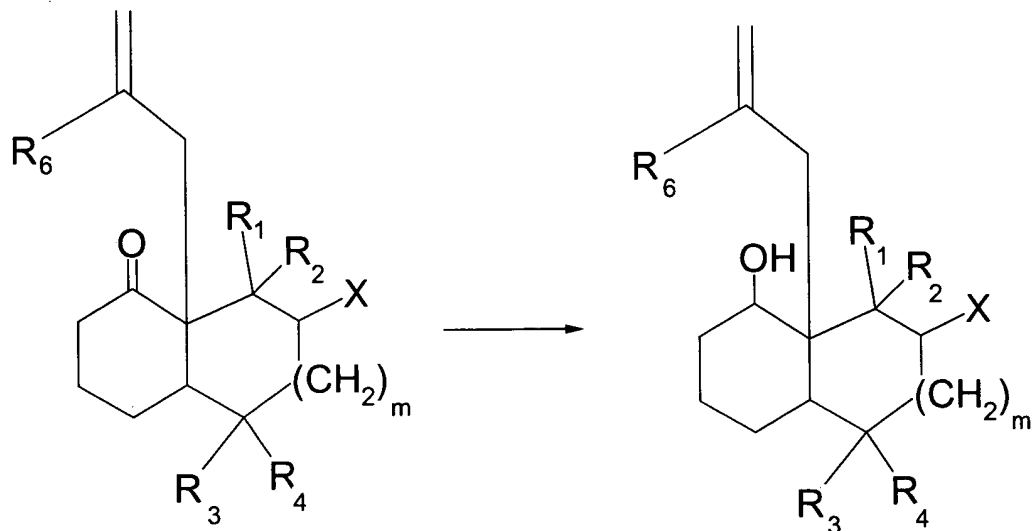
in the presence of a catalytic amount of a protonic acid.

26. A process for synthesizing the compound of claim 8 comprising the step of effecting the reaction:

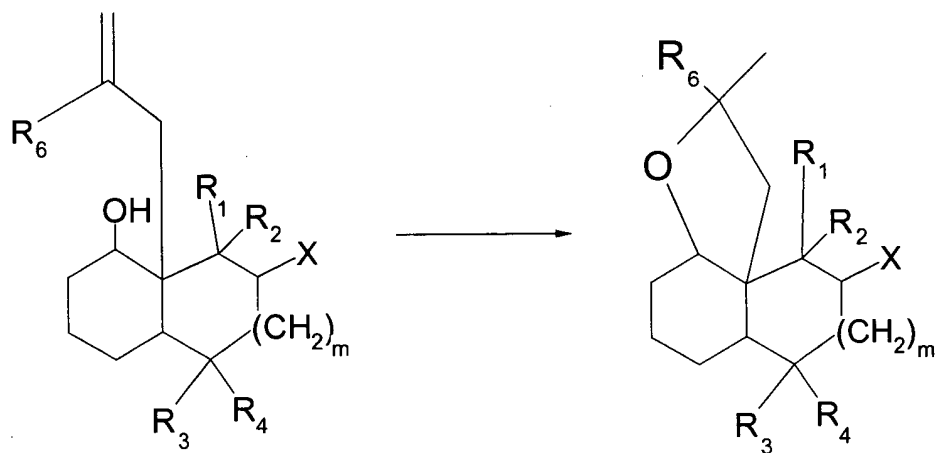


in the presence of a mild acid catalyst.

27. A process for preparing a compound defined according to claim 4 comprising the steps of first carrying out the reaction:



using a metal hydride reducing agent; and then carrying out the reaction:



using a protonic acid cyclizing agent.